Consider a single server retrial queueing system with loss and feedback under Pre-emptive priority service in which two types of customers arrive in a Poisson process with arrival rate $\lambda_1$ for low priority customers and $\lambda_2$ for high priority customers. These customers are identified as primary calls. The service times follow an exponential distribution with parameters $\mu_1$ and $\mu_2$ for both types of customers respectively. The retrial, loss and feedback are introduced for low priority customers only. Let $k$ be the maximum number of waiting spaces for high priority customers in front of the service station. The high priorities customers will be governed by the Pre-emptive priority principle. The access from the orbit to the service facility is governed by the classical retrial policy. This model is solved by using Matrix geometric Technique. Numerical study have been done for Analysis of Mean number of low priority customers in the orbit (MNCO), Mean number of high priority customers in the queue (MPQL), Truncation level (OCUT), probability of server free and probabilities of server busy with low, high priority customers for various values of $\lambda_1$, $\lambda_2$, $\mu_1$, $\mu_2$, $p$, $q$, $\sigma$ and $k$ in elaborate manner and also various particular cases of this model have been discussed.
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Index Terms

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